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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/594,053

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EXAMINER

GHOWRWAL, OMAR J

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/594,053	Applicant(s) NISHIO, AKIHIKO	
	Examiner OMAR GHOWRWAL	Art Unit 2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/17/09.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Remarks

1. This Office action is considered fully responsive to the amendment filed 6/17/09.
2. The objection to the drawings has been withdrawn because the figure has been amended accordingly.

Response to Arguments

3. Applicant's arguments filed 6/17/09 have been fully considered but they are not persuasive.

Regarding Applicant's arguments to independent claims 1 and 12 that Hiramatsu does not teach "a control channel that transmits control information necessary for data transmission on a data channel" (page 4, Remarks), because "Hiramatsu does not disclose that DSCH information is based on the CPICH" (page 4, Remarks), the Applicant is directed to paras. 0050-0051 of Hiramatsu. In para. 0051, It states, "The base station apparatus selects a communication terminal apparatus with a good downlink (that is, DSCH) situation ...**based on MCS1** included in DPCH signals sent from communication terminal apparatuses". Now, going back to para. 0050, "the communication terminal apparatus 102 estimates the **reception quality of the DSCH (data channel)...using the reception quality of the CPICH (control channel)**...apparatus 102 decides a modulation system...based on the estimated reception quality of the DSCH signal and sends a DPCH signal to notify the decided **modulation/coding system (MCS1)**".

Hence it is clear that the MCS1 chosen by the apparatus 102 uses **both** reception quality of the data and control channels, and that the base station uses the MCS1 to select a mobile station to transmit to, hence it bases this choice on both the data and control channels, due to the MCS1 depending upon both of these channels.

Regarding Applicant's arguments to independent claim 8 that Hiramatsu does not teach "determining whether or not the channel quality information is to be transmitted, in accordance with the channel quality of the control channel" (page 5, Remarks), it should be noted that the exclusive term "**or not**" is used in this claim. Hence, all that is necessary is to find is **either** if the determination section determines to transmit the channel quality information, in accordance with CQI, or if the determination section determines not to transmit the channel quality information, in accordance with CQI. The citation given in the previous Office action, namely paras. 0065-0067, clearly describes the SIR estimation transmits the quality of DSCH to the MCS1 section, the quality of the DSCH signal being based upon CPICH (control channel) signal quality, hence, **a decision is made in the affirmative to transmit** the channel quality information, which is "in accordance" with the SIR estimation section performing measurements based upon CPICH measurements, as the claim requires.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. **Claims 1, 3, 5, 8, 10, 12** are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Publication No. 2002/0136271 A1 to *Hiramatsu et al.* ("*Hiramatsu*").

As to **claim 1**, *Hiramatsu* discloses a base station apparatus (fig. 3, item 101) comprising:

a selection section that selects a mobile station to which a data channel is assigned (para. 0051, BS selects terminal apparatus (fig. 3, MS 102) that has DSCH (data channel)), in accordance with both channel quality of a control channel for transmitting control information necessary for data transmission on a data channel and channel quality of the data channel (fig. 3, para. 0048-0051, selection depends on terminal with good DSCH situation, DSCH information is based on CPICH control channel (para. 0003) reception quality and reception quality of DSCH (data channel) signal);

and a transmitting section that performs radio transmission of data to a selected mobile station (para. 0051, BS selects terminal apparatus (fig. 3, MS 102)).

As to claim 3, *Hiramatsu* further discloses the base station apparatus according to claim 1, wherein the selection section selects mobile stations in high-to-low order of the channel quality of the control channel up to number of selections set according to a total number of mobile stations currently accommodated by the base station apparatus (para. 0050-0051, choosing terminal with "good downlink" (i.e. higher quality than rest) from amongst the rest based on DSCH situation which is evaluated based on CPICH control channel, para. 0086, selecting a terminal capable of sending a DSCH signal at

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the highest speed from among terminal apparatuses 1 to N using MCS1s of DPCH (DPCH includes control channel quality information)).

As to claim 5, *Hiramatsu* further discloses the base station apparatus according to claim 1, wherein the selection section selects a mobile station to which a data channel is assigned, in accordance with channel quality of a downlink control channel for transmitting data channel assignment information or MCS information (para. 0051, MCS1 information included in DPCH signals which are sent to base station).

As to **claim 8**, *Hiramatsu* discloses a mobile station apparatus comprising:

a first measuring section that measures channel quality of a control channel (para. 0063, fig. 5, measuring section 304 measures quality of CPICH signal (control channel signal));

a second measuring section that measures channel quality of a data channel (para. 0065, fig. 5, SIR estimation section 305 estimates reception quality of DSCH signal (data channel signal));

a generation section that generates channel quality information from the channel quality of the data channel (para. 0065, fig. 5, SIR estimation section 305 estimates reception quality of DSCH signal (data channel signal), para. 0066, this information is used by MCS1 decision section, i.e. generated by SIR section);

and a determination section that determines whether or not the channel quality information is to be transmitted, in accordance with the channel quality of the control channel (paras. 0065-0067, fig. 5, SIR estimation section transmits quality of DSCH

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signal to MCS1 section, the quality of DSCH signal is estimated based on CPICH (control channel) signal quality).

As to claim 10, *Hiramatsu* further discloses the mobile station apparatus according to claim 8, wherein the first measuring section measures channel quality using a reception SIR of the control channel (para. 0063, measuring section 304 measures the reception quality SIR of the CPICH signal).

As to **claim 12**, *Hiramatsu* discloses a data channel assignment method whereby a mobile station to which a data channel is assigned is selected (para. 0051, BS selects terminal apparatus (fig. 3, MS 102) that has DSCH (data channel)) in accordance with both channel quality of a control channel for transmitting control information necessary for data transmission on a data channel and channel quality of the data channel (fig. 3, para. 0048-0051, selection depends on terminal with good DSCH situation, DSCH information is based on CPICH control channel (para. 0003) reception quality and reception quality of DSCH (data channel) signal).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 2, 6, 9** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Publication No. 2002/0136271 A1 to *Hiramatsu et al.* ("*Hiramatsu*") in view of U.S. Publication No. 2003/0073409 A1 to *Nobukiyo et al.* ("*Nobukiyo*").

As to claim 2, *Hiramatsu* does not expressly disclose the base station apparatus according to claim 1, wherein the selection section selects a mobile station for which the channel quality of the control channel is greater than or equal to a threshold value set according to a total number of mobile stations currently accommodated by the base station apparatus.

Nobukiyo discloses in paras. 0154-0159, figs. 21 and 22, a mobile station transmits quality information after setting channel with the base station. The mobile station transmits this information if it has a reception quality greater than or equal to threshold "P". Threshold "P" is set based on a value "N" corresponding to the number of mobile stations which report reception quality.

Hiramatsu and *Nobukiyo* are analogous art because they are from the same field of endeavor regarding data communications.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to incorporate the threshold value and quality reporting as disclosed by *Nobukiyo* into the invention of *Hiramatsu*. The suggestion/motivation would have been to extend battery life and improve high speed packet transmission service with low error ratio (*Nobukiyo*, paras. 0154-0159).

As to claim 6, *Hiramatsu* discloses the base station apparatus according to claim 1, wherein the selection section selects a mobile station to which a data channel is assigned, in accordance with channel quality of a control channel (para. 0049-0051).

Hiramatsu does not expressly disclose in accordance with channel quality of *an uplink control channel for transmitting ACK or NACK*.

Nobukiyo discloses UL HS-DPCCH transmits ACK/NAKs and quality information to the base station by the mobile station (para. 0005).

Hiramatsu and *Nobukiyo* are analogous art because they are from the same field of endeavor regarding data communications.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to incorporate the UL HS-DPCCH quality information as disclosed by *Nobukiyo* into the invention of *Hiramatsu*. The suggestion/motivation would have been to have a BS and MS suitable for use in a HSDPA system (*Nobukiyo*, para. 0002).

As to claim 9, *Hiramatsu* does not expressly disclose the mobile station apparatus according to claim 8, wherein the determination section determines that the channel quality information is to be transmitted when the channel quality of the control channel is greater than or equal to a threshold value, and determines that the channel quality information is not to be transmitted when the channel quality of the control channel is less than a threshold value.

Nobukiyo discloses a mobile communication system in which the quality information is reported when the reception quality of the mobile station is greater than or equal to the threshold value (para. 0155).

Hiramatsu and *Nobukiyo* are analogous art because they are from the same field of endeavor regarding data communications.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to incorporate the threshold value and quality reporting as disclosed by *Nobukiyo* into the invention of *Hiramatsu*. The suggestion/motivation would have been to extend

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battery life and improve high speed packet transmission service with low error ratio (Nobukiyo, para. 0154-0155).

8. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Publication No. 2002/0136271 A1 to *Hiramatsu et al.* ("*Hiramatsu*") in view of U.S. Patent No. 6,735,178 B1 to *Srivastava et al.* ("*Srivastava*").

As to claim 4, *Hiramatsu* further discloses the base station apparatus according to claim 1, wherein the selection section performs selection in accordance with the channel quality of the data channel after receiving information in accordance with the channel quality of the control channel (para. 0065, estimating quality of DSCH (data) signal based on CPICH (control) signal quality).

Hiramatsu does not expressly disclose *after performing selection* in accordance with the channel quality of the control channel.

Srivastava discloses in fig. 2, col. 3, lines 14-20, measuring quality to destinations, and collecting latency information. After that, discarding bad links from consideration, and from the remaining links, calculating quality of throughput and selecting destination with highest quality throughput, i.e. selecting based on quality of one link factor first then, then selecting a destination based on quality of a different link factor from the remaining pool of destinations.

Hiramatsu and *Srivastava* are analogous art because they are from the same field of endeavor regarding data communications.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to incorporate selection method as disclosed by *Srivastava* into the invention of

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Hiramatsu. The suggestion/motivation would have been to maximize data throughput of a multiple radio system (Srivastava, col. 1, lines 6-9).

9. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Publication No. 2002/0136271 A1 to *Hiramatsu et al.* ("*Hiramatsu*") in view of U.S. Publication No. 2002/0126645 A1 to *Ryu*.

As to claim 7, *Hiramatsu* discloses the base station apparatus according to claim 1, wherein the selection section performs selection in accordance with both channel quality of the control channel and the channel quality of the data channel only for a mobile station that is within an area covered by the base station (para. 0047).

Hiramatsu does not expressly disclose a mobile station whose distance from the base station is greater than or equal to a predetermined value.

Ryu discloses if the distance value received by the mobile station 100 is within the range presented by the base station A 106, the mobile station 100 can receive the broadcasting (fig. 10, para. 0053), i.e. value within range (min<value<max is a range where the value is greater than the minimum value in the range).

Hiramatsu and *Ryu* are analogous art because they are from the same field of endeavor regarding data communications.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to incorporate the distance value as disclosed by *Ryu* into the invention of *Hiramatsu*. The suggestion/motivation would have been so that the mobile station can receive broadcasting if the value is within a range (*Ryu*, fig. 10, para. 0053).

10. **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Publication No. 2002/0136271 A1 to *Hiramatsu et al.* ("*Hiramatsu*") in view of U.S. Publication No. 2005/0037766 A1 to *Hans et al* ("*Hans*").

As to claim 11, *Hiramatsu* discloses BCH demodulation section extracting transmit power information and passing it to SIR estimation section (para. 0078-0079).

Hiramatsu does not expressly disclose the mobile station apparatus according to claim 8, wherein the first measuring section measures channel quality using required transmission power of the control channel.

Hans discloses channel measurement arrangement 10 selects the transmission channel that has the minimum transmission power and causes channel assignment arrangement 20 to subsequently use this transmission channel for first connection 41 instead of the corresponding transmission channel measured by connection quality arrangement 40, which has too low a connection quality (para. 0025), i.e. channel power (control of *Hiramatsu*) measured for quality purposes, selecting the channel with minimum transmission power.

Hiramatsu and *Ryu* are analogous art because they are from the same field of endeavor regarding data communications.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to incorporate the transmission power measurements as disclosed by *Hans* into the invention of *Hiramatsu*. The suggestion/motivation would have been to select a channel to use based on quality (*Hans*, para. 0025).

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to OMAR GHOWRWAL whose telephone number is (571)270-5691. The examiner can normally be reached on Monday-Thursday, 8:00am-5:00pm est..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derrick Ferris can be reached on (571)272-3123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/O. G./
Examiner, Art Unit 2416

/Derrick W Ferris/
Supervisory Patent Examiner, Art Unit 2416